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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,233	07/14/2003	Daniel Robin Smith	0275V-000763	5825
27572	7590	09/08/2004	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C.			DAVIS, OCTAVIA L	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	
			2855	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/619,233	Applicant(s) SMITH, DANIEL ROBIN	
	Examiner Octavia Davis	Art Unit 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/14/03, 6/9/04</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Wolfer et al.

Regarding claim 1, Wolfer et al disclose a piezoelectric strain transducer comprising a tool 1, 31 having a front end face against which a blind fastener is held during a setting operation, and having a piezo-electric thin film lead measuring device 21, 32 mounted on the front end face so as to be disposed and compressed between said front end mounted face and a fastener during said setting operation (See Col. 7, lines 9 – 17).

Regarding claim 2, the front end face is mounted on said tool by a bridge member 34 so as to form a cantilever (See Col. 7, lines 15 – 17).

Regarding claim 3, a bending piezo-electric generator is securely mounted on the front end face, wherein bending deformation of the generator generates a low voltage electrical signal (See Col. 2, lines 58 – 65).

Regarding claim 4, the front end face includes a central aperture 2 and the measuring device includes an aperture 35 (See Col. 7, lines 18 – 20).

Regarding claim 5, a protective cover 42 is mounted on an external face of said measuring device 32 (See Col. 7, lines 43 – 50).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over in view of Wolfer et al in view of Chitty.

Regarding claims 6 - 8, Wolfer et al disclose all of the limitations of these claims except a control circuit connected to receive said voltage output from said load measuring device for measuring the load exerted on the fastener. However, Chitty discloses a blind rivet set verification system comprising a control circuit 18 that is connected to receive a voltage output signal from a load measuring device 94, 96 and analyze the load signal (See Pg. 4, lines 48 – 53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wolfer et al according to the teachings of Chitty for the purpose of, providing an improved rivet setting and correctness verification system that utilizes a programmed control algorithm to analyze a breakload and compare the breakload against predetermined ideal data to assess the acceptability of the set (See Chitty, Pg. 5, line 56 - 58).

Regarding claim 9, Wolfer et al disclose all of the limitations of these claims except for a teaching that a measured time difference between a first load peak corresponding to a mandrel entry point and a second load peak corresponding to a

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mandrel setting point of such fastener is determined and the measured time difference is compared to a predetermined time difference value indicative of an optimum setting time difference and generating an output signal in the event that the measured time difference is greater than the predetermined time difference indicative of a free set operation.

However, in Wolfer et al, a rivet mandrel pulling tool 12 is provided for pulling a mandrel 72, and a measured time difference between a first load peak corresponding to a mandrel entry point and a second load peak corresponding to a mandrel setting point of such fastener is determined and the measured time difference is compared to a predetermined time difference value indicative of an optimum setting time difference and generating an output signal in the event that the measured time difference is greater than the predetermined time difference indicative of a free set operation (See Pgs. 3 – 6, lines 50 – 52, 9 – 23, 32 - 38 and 18 – 33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wolfer et al according to the teachings of Chitty for the purpose of, determining accurate displacement breakpoint values in spite of the phenomenon of jaw slippage useful in preventing multiple tool cycles to set each rivet as a result of severe slippage (See Chitty, Pg. 7, lines 26 – 30).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mauer et al (6,276,050) teach a riveting system and process for forming a riveted joint.

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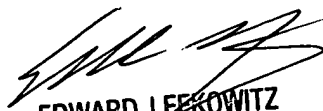
6. Any inquiry concerning this communication should be directed to examiner Octavia Davis at telephone number (571) 272 - 2176. The examiner can normally be reached on Monday - Thursdays (9:00 - 5:00), Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on (571) 272 - 2180. The fax phone number for the organization where this application or proceeding is assigned is (703) 872 - 9306.



OD/2855

9/3/04



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